

MEZHEUMOV, F., inzh.; ZEL'DIS, M., inzh.; ONISHCHENKO, V., inzh.

Automation of the washing and drying of passenger cars. Avt.transp. 39
no.1:16-20 Ja '61. (MIRA 14:3)
(Automobiles--Maintenance and repair)

51-4 -1-15/86

Investigation of the Intensity and Width of Combination Scattering
lines of Benzene and Carbon Disulphide.

authors thank P.A. Bazhulin for advice and interest.

There are 4 figures, 2 tables and 16 references, of
which 9 are Russian, 5 English, 1 Italian and 1 Polish.

ASSOCIATION: Moscow State University. (Moskovskiy gosudarst-
vennyy universitet.)

SUBMITTED: March 19, 1957.

AVAILABLE: Library of Congress.

1. Benzene-Scattering lines-Theory
2. Carbon disulphide-
Scattering lines-Theory

Card 4/4

51-4 41-17/26

Investigation of the Intensity and width of Combination Scattering
Lines of Benzene and Carbon Disulphide.

line widths δ , integral intensities I_{ω} , and observed intensities at the maximum I_0 are given in Table 1. Each of the benzene lines was measured 10 times, and each of the CS_2 lines 6-7 times. The errors in the quantities reported in Table 1 are estimated to be about 10%. Comparison of the benzene line intensities (Table 2) shows that the quantities I_{ω} measured by the present authors agree satisfactorily with photoelectric measurements of other authors (Refs. 11, 14, 15). The experimental values of the CS_2 line intensities obtained by various authors differ somewhat. Table 2 shows also that the experimental values for C_6H_6 and CS_2 reported by the present authors agree well with theoretical values. The

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51-4 -1-15/26

Investigation of the Intensity and Width of Combination Scattering Lines of Benzene and Carbon Disulphide.

spectrum was excited with a low-pressure lamp at room temperature. Benzene spectrum was excited with 4358 Å line. The results are shown in Fig.3. The region round 3047 cm^{-1} line was studied separately, using 4047 Å excitation. The latter results are shown in Fig.4. CS_2 spectrum was excited using the 4358 Å line. In the CS_2 spectrum the authors studied fully-symmetrical vibrations with 696 cm^{-1} frequency (Fig.1) and the harmonic of deformation vibration at 796 cm^{-1} (Fig.2). The lines in each group were separated by a graphical method, on the assumption of symmetry of their shapes. In the 641-656 cm^{-1} group an additional component with a frequency of about 653 cm^{-1} was observed. The true

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MEZHETSKIY, R

51-4 -1-15/26

AUTHORS: Rezayev, N. I. and Mezhetskiy, R.

TITLE: Investigation of the Intensity and Width of Combination Scattering Lines of Benzene and Carbon Disulphide.
(Issledovaniye intensivnosti i shiriny liniy kombinatsionnogo rasseyaniya benzola i serougleroda.)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol.IV, Nr.1, pp. 95-98. (USSR)

ABSTRACT: Theoretical calculations of the Raman line intensities for benzene were carried out by Whiffen (Ref.1), and for carbon disulphide by Vol'kenshteyn (Ref.2). Experimental measurements of intensities of C_6H_6 and CS_2 lines are reported in several papers. For comparison of theory with experiment the present authors measured integral intensities of C_6H_6 and CS_2 lines by a photoelectric method using narrow spectrometer slits, when line shapes are not distorted. Measurements were made on a diffraction spectrometer $\Delta\Phi C-4$, following Card 1/4 the method described earlier (Refs.3, 4). The Raman

MEZHETSKIY, B.V.; TIBABSHEV, A.I.

Construction, repair, and testing of remote-control thermometers.

Elek. i tepl. tiaga 2 no.2:42-43 F '58.

(MIRA 11:4)

(Thermometers) (Diesel locomotives)

MEZHEROVSKIY, A-B																										PROCESSING AND PROPERTIES INDEX																									
1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
4723. VTI FURNACE WITH SCRAPER BAR. Filatov, AA and Mezherovskii, AB. (4a Ekon. Topliva (Fuel Econ.), Aug. 1950, 17-20). An illustrated description of an illustration, similar to that in FA 1950, no. 7, 3257, in which a scraper bar moves from front to back of a fixed grate and vice versa, spreading coal as it goes. There is a subsidiary low level "lighting up" grate at the front which ensures the maintenance of combustion overunheated air.. The scraper bar is water cooled. (L)																																																			
ASIA-SLA METALLURGICAL LITERATURE CLASSIFICATION																																																			

DOROFEYENKO, G.N.; KRIVUN, S.V.; MEZHERITSKIY, V.V.

Perchloric acid and its compounds as catalysts in organic synthesis.
Part 21: Triphenyl pyrylium salts with functional substituents in
aromatic rings. Zhur. ob. khim. 35 no.4:632-635 Ap '65. (MIRA 18:5)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.

PRONKIN, Nikolay Fedorovich, kand. tekhn. nauk.; GRIBOV, S.M., inzh., retsenzent.;
MEZHERITSKIY, V.I., inzh., red.; KUZNETSOVA, A.G., izd. red.;
ZUDAKIN, I.M., tekhn. red.

[Broaching heat-resistant and titanium materials] Protiagivanie
zharoprochnykh i titanovykh materialov. Moskva, Gos. izd-vo obor.
promyshl., 1958. 169 p. (MIRA 11:11)

(Metal cutting)
(Heat resistant alloys)
(Titanium alloys)

ACC NR: AP6035726

(A)

SOURCE CODE: UR/0413/66/000/019/0086/0086

INVENTOR: Kasimov, R. G.; Kirichenko, I. D.; Livshits, S. Ya.; Mezheritskiy, A. M.; Fomichev, A. V.; Chirtsov, V. I.; Yudin, S. M.

ORG: none

TITLE: Method of extracting mercury from tailings. Class 40, No. 186706

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 86

TOPIC TAGS: mercury, mining engineering, metal extracting, *electrolysis*

ABSTRACT: To raise the yield and sanitary work conditions for mercury extraction by nitric acid and electrolysis, the electrolysis is carried out in a solution containing 230—260 gram/liter of mercury and 20—40 gram/liter of nitric acid and using a nonsoluble anode and a mercuric cathode; the anode and cathode current densities are 300—450 and 450—600 amp/m², respectively. [WA-96]

SUB CODE: 08,11,16/SUBM DATE: 30Dec64/

Card 1/1

UDC: 669.791.3:541.135.21

ACC NR: AP6035726

(A)

SOURCE CODE: UR/0413/66/000/019/0086/0086

INVENTOR: Kasimov, R. G.; Kirichenko, I. D.; Livshits, S. Ya.; Mezheritskiy, A. M.;
Fomichev, A. V.; Chirtsov, V. I.; Yudin, S. M.

ORG: none

TITLE: Method of extracting mercury from tailings. Class 40, No. 186706

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TOPIC TAGS: mercury, mining engineering, metal extracting, *electrolysis*

ABSTRACT: To raise the yield and sanitary work conditions for mercury extraction by nitric acid and electrolysis, the electrolysis is carried out in a solution containing 230—260 gram/liter of mercury and 20—40 gram/liter of nitric acid and using a nonsoluble anode and a mercuric cathode; the anode and cathode current densities are 300—450 and 450—600 amp/m², respectively. [WA-96]

SUB CODE: 08,11,16/SUBM DATE: 30Dec64/

Card 1/1

UDC: 669.791.3:541.135.21

ACC NR: AT6034792

turbosupercharger on the capacity of the ship's power plant and on the overall heat release rate of the engine is discussed. The labor required for repairs and servicing is analyzed. In conclusion, the authors rate the ATL-N5 turbosupercharger for Herlitz engines as undependable for failure to meet a number of technical specification and high cost of operation and servicing. The authors suggest a number of improvements to raise the overall efficiency of the ATL-N5 turbosupercharger. Orig. art. has: 2 figures and 6 tables. [GC]

SUB CODE: 10, 13/SUBM DATE: none/

Card 2/2

ACC NR: AT6034792 (N) SOURCE CODE: UR/2914/66/000/042/0077/0090

AUTHOR: Mezheritskiy, A. D. (Candidate of technical sciences); Shun'gin, Yu. A.

ORG: none

TITLE: Analysis of the performance of ATL-N5 turbosuperchargers

SOURCE: Leningrad. Tsentral'nyy nauchno-issledovatel'skiy institut morskogo flota. Informatsionnyy sbornik, no. 42(152), 1966. Tekhnicheskaya ekspluatatsiya morskogo flota voprosy nadezhnosti sudov i ikh silovykh ustanovok (Technical operation of the Merchant Marine; problems of reliability of ships and their power systems), 77-90

TOPIC TAGS: marine engine, marine equipment, turbosupercharger engine, ship, turbosupercharger/ATL-N5 supercharger, Herlitz engine, "Andizhan" type ship

ABSTRACT: The authors discuss in detail the operation of the ATL-N5 turbosupercharger produced in East Germany and widely used on Soviet ships of the "Andizhan" type. The design, operation, function of the bearing parts and cooling system are described. The influence of the performance characteristics of the

Curu 1/2

UDC: 621.438.515.015.001.36

L 05407-67

ACC NR: AT6022414

(N)

SOURCE CODE: UR/2752/65/000/068/0075/0081

AUTHOR: Mezheritskiy, A. D. (Candidate of technical sciences)

ORG: None *

TITLE: Effect of turbocompressor efficiency on the volumetric efficiency of an engine

SOURCE: * Leningrad. Tsentral'nyy nauchno-issledovatel'skiy institut morskogo flota. Trudy, no. 68, 1965. Tekhnicheskaya ekspluatatsiya morskogo flota (Technical operation of the merchant marine), 75-81

TOPIC TAGS: turbosupercharged engine, compressor design, turbine compressor

ABSTRACT: The author considers the effect of a reduction in the pressure of scavenging air and compressor efficiency on the volumetric efficiency of engine cylinders. It is assumed that the excess air factor is constant. An expression is derived for the temperature of the supercharged air in terms of the pressure increase in the compressor and curves are given showing the weighting factors in this expression as functions of the degree of pressure increase. Formulas are derived for determining the temperature of the gas at the turbine input, the adiabatic temperature drop in the turbine and the temperature of the gas at the turbine outlet. When supercharging pressures are greater than 1.6 kg/cm² the effect of compressor efficiency on volumetric efficiency of the engine is slight under ordinary operating conditions and need not be taken into account. Orig. art. has: 3 figures, 1 table, 20 formulas.

SUB CODE: 13/ SUBM DATE: None/ ORIG REF: 003

Card 1/1

UDC: 621.438:621.515

KURZON, A.G., doktor tekhn.nauk; MEZHERITSKIY, A.D., kand.tekhn.nauk

Selecting the optimum design power of a back stroke turbine.

Sudostroenie 29 no.5:18-21 My '63. (MIRA 16:9)

(Marine turbines)

KURZON, A.G., doktor tekhn. nauk; MEZHERITSKIY, A.D., kand. tekhn. nauk

Principal characteristics of power plants of merchant ships
on underwater wings and prospects for the use of gas turbines
on these ships. Inform. sbor. TSNIIMF no.101: Tekh. ekspl.
mor flota no.25:21-50 '63. (MIRA 17:9)

MEZHERITSKIY, A.D.

New ships equipped with gas-turbine plants with a free-piston gas generator. Inform. sbor. TSNIIMF no.73. Tekh. ekspl. mor. flota no.13: 63-66 '62. (MIRA 16:3)

(Marine gas turbines)

Windage losses in a turbine stage

S/114/62/000/006/004/006
E194/E155

which allows for the blading pitch and which ranges from 1 when the relative pitch t_{cp} is 12 mm to 2 when t_{cp} is 22 mm; a and r are factors which allow for the axial and radial clearances (numerical values are given for particular cases); $f(\sin \beta_2)$ is a factor which allows for the blade shape and which ranges from 0.8 when β_2 is 16° to 1 when β_2 is 37° ; γ is the specific gravity of the working substance, kg/m^3 . In the particular case when $\beta_1 = \beta_2$, formula (4) assumes the form:

$$N_B = 0.013 D_{cp}^4 \ell (1 - \epsilon) \gamma \zeta_a \zeta_r \Psi(t) \sin \beta \left(\frac{n}{100} \right)^3 \text{ h.p.} \quad (5)$$

Formulae (4) and (5) are both given in h.p. Since these formulae were obtained experimentally with a particular kind of blade they were used in making calculations of four other kinds of blade. The results are tabulated and show that the calculated values are in good agreement with experiment. There are 6 figures and 2 tables.

Card 3/3

Windage losses in a turbine stage

S/114/62/000/006/004/006
E194/E155

moving from the blade root towards the periphery under centrifugal force; on leaving the blade it circulated back from the tip to the root. The incident flow on the runner blade was at very high angles of attack. Having elucidated the nature of the flow, a study was made of the influence of the angle of installation of the runner blades, of the radial and axial clearances and of the blading pitch. Within the range of 91 to 107° the angle of installation has little effect on windage, probably because the flow path area changes together with the angle, but when $\beta_1 = \beta_2$ the windage loss is proportional to the sine of the angle of installation. The influence of other factors is presented graphically. Blade pitch had a particularly noticeable effect on the windage loss. In the light of the results the following formula is recommended for calculating windage losses in a turbine stage:

$$N'_B = 0.0035 D_{cp}^4 \ell (1 - \varepsilon) \gamma \xi_a \xi_r^f (\sin \beta_2) \Psi(t) \left(\frac{n}{100} \right)^3 \text{ h.p.} \quad (4)$$

where: ε is the relative delivery angle; $\Psi(t_{cp})$ is a factor

Card 2/3

38533

S/114/62/000/006/004/006
E194/E155

26.8/70

AUTHOR: Mezheritskiy, A.D., Engineer

TITLE: Windage losses in a turbine stage

PERIODICAL: Energomashinostroyeniye, no.6, 1962, 29-32

TEXT: Existing empirical formulae for windage losses of turbine stages with both partial and complete delivery angle give results that differ by a factor of 5 to 10. The reason for this scatter is probably that the formulae do not allow for blade pitch, width, inlet and discharge angles, and radial and axial clearances. Accordingly, the influences of these factors on windage loss were studied over a wide range on a special rig. The rotor was driven by a d.c. motor calibrated for direct reading of torque. The tests were on a stage with unshrouded blading made by the Neva Works, Leningrad. Its mean stage diameter $D_{cp}=268$ mm, blade length $l = 42$ mm, inlet angle $\beta_1 = 32^\circ$, discharge angle $\beta_2 = 24^\circ$, and pitch = 13.11 mm on the mean diameter. Flow velocity charts plotted over the blade height at the inlet and discharge edges showed that about three quarters of the blade was occupied by a zone of reduced pressure in which the working substance was

Card 1/3 ○

S/145/62/000/005/007/008
D262/D308

Some special features...

action on the ratio $\frac{u_1}{C_0}$ (u_1 --peripheral velocity on the inside diameter of the wheel, C_0 --gas velocity). (4) Leakage losses through axial clearances and their effect on the stage efficiency. There are 5 figures and 1 table.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut morskogo flota (Central Scientific and Research Institute of the Marine Fleet)

SUBMITTED: March 23, 1961

Card 3/3

S/145/62/000/005/007/008
D262/D308

Some special features...

$$\left(\frac{t}{b}\right) = \frac{4 [\sigma] w}{1^2 c_a \text{ av. } \rho \text{ av. } b} \sqrt{\frac{1}{4(c_{1u} - c_{2u})^2 + c_a^2 \text{ av. } \left(\frac{\sin^2 \beta_1 + \sin^2 \beta_2}{\sin^2 \beta_1 \sin^2 \beta_2}\right)}}$$

(t--pitch, c--chord, $[\sigma]$ --permissible bending stress, w--resisting moment of the blade, b--blade height, c_a , c_{1u} , c_{2u} --projections of

the absolute velocity of gas, $\rho = \frac{\gamma}{g}$, γ --specific weight of gas,

β_1 --geometric inlet angle, β_2 --geometric outlet angle). For radial turbines the following points are discussed: (1) Advantages of radial turbines and their applications. (2) Losses in the reversible radial turbines when reversing and the selection of suitable blade parameters. (3) The effect of the degree of re-

Card 2/3

S/145/62/000/005/007/008
D262/D308

AUTHORS:

Mezheritskiy, A. D., Engineer, Rozenberg, G. Sh.,
Candidate of Technical Sciences

TITLE:

Some special features of operation of axial
and radial turbines in marine gas turbine units
with free piston gas generators

PERIODICAL:

Izvestiya vyssnikh uchebnykh zavedeniy.
Mashinostroyeniye, no. 5, 1962, 169-182

TEXT:

In the case of axial turbines, the problems connected
with the reverse drive of the gas turbine unit are discussed, in
particular the problem of so-called "ventilation losses" in the
reversing part of the turbine during its forward drive. These
losses can be reduced and the turbine efficiency improved by
selecting a suitable (increased) blade pitch. This blade pitch
is calculated, and the final result is:

Card 1/3

IDENTIFICATION, A.D., inch.

... ..
... ..
... ..
(Belg.)

MEZHERITSKIY, A.D.

Ventilation losses in reverse running gas turbines. Trudy TSNIIMF
7 no.34:39-51 '61. (MIRA 14:8)

(Marine gas turbines)

KURZON, A.G., doktor tekhn. nauk, nauchn. red.; ROZENBERG, G.Sh.,
kand. tekhn. nauk, nauchn. red.; KNYAZEV, H.N., inzh.,
nauchn. red.; MEZHERITSKIY, A.D., inzh., nauchn. red.

[Marine gas turbines] Sudovye gazovye turbiny. Leningrad,
Izd-vo "Morskoi transport," 1961. 177 p. (MIRA 17:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut mor-
skogo flota (for Kurzon, Mezheritskiy).

MEZHERITSKIY, A.D., inzh.

Some methods for reducing the water content of steam.
Energomashinostroenie 6 no.3:30-31, 53 Kz 180.
(MIRA 13:6)

(Steam)

SAVRANSKIY, K.Ye.; MEZHERITSER, A.B.

Arrangement for the tilting of 85-100-ton capacity dumpcars.
TSvet.met. 36 no.2:88-91 F '63. (MIRA 16:2)
(Dumping appliances)

SAVRANSKIY, K.Ye.; ~~MEZHERITSER~~, A.B.

Thirty-ton pouring ladle with tilting mechanism. Lit. proizv.
no.8:16-17 Ag '62. (MIRA 15:11)
(Foundries--Equipment and supplies)

SAVRANSKIY, K.Ye., inzh.; MEZHERITSER, A.B., inzh.

Equipment for the cutting of scrap metal. Met. i gornorud.
prom. no.1:70-72 Ja-F '62. (MIRA 16:6)

1. Proyektno-konstruktorskiy tekhnologicheskii institut
Dnepropetrovskogo soveta narodnogo khozyaystva.
(Scrap metals) (Metal cutting)

MEZHERICHER, Ye.G.

Geographical evening on the topic "Africa must be free." Geog. v
shkole 25 no.2:63-65 Mr-Ap '62. (MIRA 15:2)

1. 728-ya shkola Moskvu. (Africa--Politics)

MEZHERICHER, Ye.G.

Geography evening of friendship. Geog.v shkole 24 no.6:62-65
N-D '61. (MIRA 14:10)

1. 28-ya shkola Moskvu.
(Geography--Study and teaching)

CA

MEZHERICHER, M.

3

Dependence of the intensity of spectral lines on the concentration of the element in the flame. N. N. Sobolev, R.

M. Mezhericher, and G. M. Rodin. *Zhur. Eksptl. Teor. Fiz.* 21, 350-60 (1951). See C.A. 45, 4131d. K. L. C.

Certain forbidden spectral lines of cadmium. John R. Holmes and Fernand Delonne (Univ. of S. California, Los Angeles). *J. Optical Soc. Am.* 42, 77-8 (1952). An exptl. investigation was made to establish conclusively the source and nature of the highly forbidden lines 3320 Å, ($5^1S_0 - 5^3P_2$), 3141 Å, ($5^1S_0 - 5^3P_2$), and 3103.1 Å, ($5^3P_1 - 5^3D_2$) in Cd. All such transitions are strictly forbidden for elec. dipole radiation and by most of the selection rules for higher-pole and magnetic dipole radiation. Bowen and others, have suggested that the lines are emitted as the result of the interaction of the optical electron with the magnetic moment of the nucleus and are, therefore, produced by only the odd weighted isotopes. The intensities of the above-mentioned lines as emitted by a Cd sample that contained 2.06 times the quantity of odd isotopes contained in natural Cd were compared with the intensities of the same lines emitted by natural Cd. Within the exptl. error it was found that the forbidden lines are emitted with an intensity proportional to the odd isotope abundance and, therefore, it seems conclusively established that they arise only from the odd isotopes. The intensities of some of the forbidden lines were compared with the intensity of an allowed transition from the same multiplet in order to give a measure of the interaction of the optical electron with the nuclear magnetic moment. William F. Meggers

CA MEZHERICHER, M.

Dependence of the intensity of spectral lines on the concentration of the element in the flame. N. N. Sobolev, E. M. Mezhericher, and G. M. Rodin. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 14, 737(1950). The total energy of spectral lines emitted by alkali and alk. earth metals in C_2H_2 flames is at small concns. proportional to the concn. and at large concns. proportional to the $\sqrt{c}$. From contour measurements the abs. width of line Na 5890 Å. was found to be 0.085 Å.; that of line Ca 4227, 0.06 Å. At higher concns. the contour increases owing to internal conversion. S. P.

MEZHERETSKIY, A.U. (Rostov-na-Donu)

Current evaluation of the knowledge of students. Mat.v shkole
no.6:53-54 N-D '57. (MIRA 10:11)
(Mathematics--Study and teaching)

MEZHERETSKIY, A.D.

Designing reverse turbines. Sudostroenie 27 no.11:24-28
N '61. (MIRA 15:1)
(Marine engines)

MEZHERA, A.V. (Rostev-na-Donu); KHAYUTIN, V.M. (Moskva)

Some mechanisms of the effect of hypertonic solutions of
glucose and sodium chloride on the cardiovascular system.
Pat. fiziol. i eksp. terap. 6 no.3:28-32 My-Je'62

(MIRA 17:2)

1. Iz kafedry normal'noy fiziologii (zav. - prof. N.V. Danilov)
Rostovskogo meditsinskogo instituta i Instituta normal'noy
i patologicheskoy fiziologii (direktor - deystvitel'nyy
chlen AMN SSSR prof. V.V. Parin) AMN SSSR.

MEZHERA, A.V.

Effect of removal of motor zones of the cerebral cortex on the cerebellar stimulation. Fiziol.zhur. 46 no.6:672-676 Je '60.

(MIRA 13:8)

1. From the Chair of normal physiology, Medical Institute, Rostov-on-Don.

(CEREBRAL CORTEX)

(CEREBELLUM)

MEZHERA, A.V.

Correlation between the cerebral cortex and lower portions of the central nervous system. Zhur. vys. nerv. deiat. 4 no.2:258-266
Mr-Apr '54. (MLRA 7:10)

1. Kafedra normal'noy fiziologii Rostovskogo-na-Donu gosudarstvennogo meditsinskogo instituta.
(CEREBRAL CORTEX, physiology,
relation to other parts of CNS)
(CENTRAL NERVOUS SYSTEM, physiology,
relation of various parts to CNS)

MEZHERA, A. V.

"Some Reactions to Direct Irritation of the Brain Stem, the Dependence of Their Course on the Activity of the Cerebral Cortex." Cand Med Sci, Rostov Medical Inst, Rostov-na-Donu, 1954. (RZhBiol, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

A thyatron time relay ...

S/704/61/000/002/005/006
D201/D302

components. It is concluded that it is possible to have a time relay operating for 0-4, 0-10 and 0-20 sec., i.e. at all time interval ranges used in relay protection. There are 5 figures and 10 references 9 Soviet bloc and 1 non-Soviet bloc.

Card 3/3

A thyatron time relay ...

S/704/61/000/002/005/006
D201/D302

thyatron has in its anode circuit an interval d.c. relay which is able to switch considerable powers. The re-setting of the relay is achieved by connecting a semi-conductor diode parallel to the variable resistance of the RC potentiometer chain. With the control signal applied (i.e. with application of the voltage to the circuit), the diode is biased in reverse at its cathode by the positive potential of the HT rail. When the control signal is removed, the diode anode, connected to the charged capacitor of the thyatron grid circuit, becomes more positive than its cathode, the diode conducts and the capacitor in the grid circuit discharges quickly through the resistor of the RC chain and the resistances of the supply filter and the thyatron anode current limiting resistor. The relay may be d.c. or a.c. operated, the only difference being a bridge rectifier incorporated between the a.c. supply and the thyatron circuit. Laboratory experiments with the above type of d.c. or a.c. operated time relay have shown the following: The relay consumes little power and has a small spread of operating time characteristics (less than ± 0.1 sec), it has a good temperature stability; permits a large number of operations (0.5 - 1 million) and easy changes of its range by a simple change of the RC-network

Card 2/3

S/704/61/000/002/005/006
D201/D302

AUTHORS: Golembiovskiy, P.S. and Mezhennyy, Yu. Ya. Engineers

TITLE:

A thyatron time relay for relay protection and system automation

SOURCE:

Ukraine. Gosudarstvennaya planvoya komissiya. Institut avtomatiki. Avtomatizatsiya i priborostroyeniye; sbornik nauchnykh trudov, no. 2, Kiyev, 1961, 139-146

TEXT: The authors described a thyatron time relay developed by them at the Institute of Automation. The relay is intended for relay protection systems, has a small power consumption, good temperature stability and has no mechanical moving parts. The main component used is a cold cathode thyatron MTKh-90 (MTKh-90), although other types of cold cathode thyatrons may be used. The principle of operation is the discharge of a capacitor. The capacitor is connected at the bottom end of a potentiometer, whose upper part consists of a variable resistor connected to an HT rail. Limiting resistor connects the thyatron grid to the RC junction. The

Card 1/3

SKAKOV, Yu.A.; MEZHENNYI, Yu.O.; YEDNIN, N.V.

Defects of packing and segregation in cobalt-base alloys.
Fiz. met. i metalloved. 17 no.5:773-774 My '64.

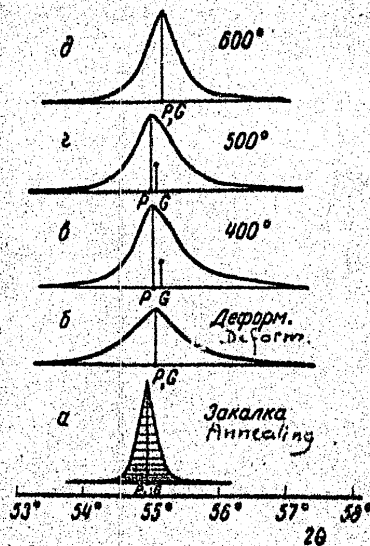
(MIRA 17:9)

1. Moskovskiy institut stali i splavov.

Stacking faults

S/126/63/015/002/020/033
E193/E383

Fig. 1:



Card 3/3

S/126/63/015/002/020/033
E193/E383

Stacking faults

annealed at 400, 500 and 600 °C, respectively; P and G indicate, respectively, the position of the peak and the centre of gravity of the line. Conclusions: 1) plastic deformation of alloys of the K40NKhM type at room temperature brings about the formation of a large quantity (up to 7%) of stacking faults. The carbon content of the alloy has no significant effect on the probability of the formation of the stacking faults which is, however, increased in the presence of Mo and Cr. 2) The hardness of specimens deformed at room temperature increases after annealing at low (up to 500 °C) temperatures. This effect has been attributed to the segregation in the vicinity of the stacking faults; thus, for instance, in the case of an alloy with a nominal Mo content of 7%, the concentration of this element in the region of hexagonal stacking has sometimes been found to be 20%. 3) After high-temperature annealing accompanied by the precipitation of carbides, stacking faults disappear, the alloy becomes homogeneous and its hardness decreases. There are 2 figures and 1 table.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow
Institute of Steel and Alloys)

Card 2/3

S/126/63/015/002/020/033
E193/E383

AUTHORS: Skakov, Yu.A. and Mezhennyy, Yu.O.

TITLE: Stacking faults and segregation in Cobalt-base alloys

PERIODICAL: Fizika metallov i metallovedeniye, v. 15, no. 2, 1963, 280 - 284

TEXT: Two alloys of the K40KXPM (K4ONKHM) type (approximately 40% Co, 20% Cr, 14% Fe, 16% Ni, 4% Mo) with a high (0.1%) and low (0.03%) carbon content were used as the experimental materials. The displacement of the peaks of the (111) and (200) lines, diffracted by a face-centered cubic lattice of the solid solution, was studied to determine the concentration of the stacking faults in filings produced at room temperature and then annealed at 400 - 700 °C. These experiments were supplemented by determining the position of the centre of gravity of the (111) line. Typical results obtained for the 0.1% C alloy are reproduced in Fig. 1, showing the profile of the (111) lines of specimens in the following condition: a) quenched; b) quenched and deformed (by filing); B, c, d) quenched, deformed and then

Card 1/3

MEZHIMNYI, Ye.F.

Relation between the elements of the system and
the discrete location and the value of the number.
Pisarchevskii's numbers. Ukr. Mat. zh. 30 no. 11:1001-1004
1981
(Ukr. ed.)

1. Ukrainskaya i sovetskaya matematika.

Investigation of the solubility and...

S/073/63/029/002/002/006
A057/A126

again. A rubber concentration of 4.5% gives non-saturated solutions above 35°C and supersaturated solutions below this temperature. The solubility of rubber in dioxane increases about ten times with a temperature rise from 15 to 30°C. The viscosity of a 4.5% rubber solution in dioxane was investigated in the range of 25 - 50°C and it was observed that at 25°C and below there starts precipitation of rubber flakes. The viscosity decreases from 0.36 (35°C) to 0.17 (50°C) with rising temperature. There are 4 tables.

ASSOCIATION: Ukrainskaya sel'skokhozyaystvennaya akademiya (Ukrainian Agricultural Academy)

SUBMITTED: September 10, 1961

Card 2/2

S/073/63/029/002/002/006
A057/A126

AUTHOR: Mezhenny, Ya. F.

TITLE: Investigation of the solubility and viscosity of natural rubber
in dioxane

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 29, no. 2, 1963, 162 - 164

TEXT: The aim of the present work is to demonstrate that not only nitro-
- and benzyl-cellulose, but also natural rubber can form true, thermodynamically
stable solutions with a certain rubber concentration corresponding to each tem-
perature. Swelling was studied with 0.5 g rubber in 10ml dioxane, gasoline, and
toluene. The process was characterized by the absorption of the liquid in the rub-
ber and the absorption of the rubber particles by the liquid. The second process
does almost not occur in dioxane. Rubber has a limited swelling capacity in diox-
ane ($i = 150\%$). The experiments concerning the solubility of natural rubber in
dioxane showed that rubber, similar to other substances with low molecular weight,
dissolves reversibly in dioxane. Heating of the supersaturated solution effects
dissolving of the precipitate, while subsequent cooling precipitates the rubber

Card 1/2

Physicochemical Investigation of Systems
Containing Dioxane. XII. A New Method of
Synthesizing Sulfur-trioxide Dioxanate

S/079/60/030/006/011/033/XX
BOON/B055

and, on passing sulfur trioxide into the solution, obtained the dioxanates as white flaky precipitates. The present work was undertaken to investigate whether the dioxane complexes of sulfur trioxide might not be obtained by a reaction without a solvent and in the gaseous, instead of the liquid, state. The complexes of dioxane and SO_3 were synthesized by a direct reaction of dioxane and sulfur trioxide, both in the vapor state, in a manner that excluded charring of the final product. According to analytical data, the ratio of the components (SO_3 and dioxane) in the complex is 2:1. The formation rate of the above complex can be regulated by varying the evaporation rate of dioxane and sulfur trioxide by temperature change. There are 1 table and 5 references: 4 Soviet and 1 US.

ASSOCIATION: Ukrainskaya akademiya sel'skokhozyaystvennykh nauk
(Ukrainian Academy of Agricultural Sciences)

SUBMITTED: June 11, 1959

Card 2/2

S/079/60/030/006/011/033/XX
B001/B055

AUTHORS: Mezhenny, Ya. F. and Kovganich, N. Ya.
TITLE: Physicochemical Investigation of Systems Containing Dioxane.
XII. A New Method of Synthesizing Sulfur-trioxide Dioxanate
PERIODICAL: Zhurnal obshchey khimii, 1960. Vol. 30, No. 6, pp.1755-1757

TEXT: Sulfonation of organic compounds by means of complex compounds of SO_3 is becoming of increasing theoretical and practical importance. Of great interest in this respect is dioxane sulfotrioxide, which was suggested as a sulfonating agent for the sulfonation of various aromatic compounds (Ref. 4). For this purpose, two dioxanates, $\text{O}(\text{CH}_2\text{CH}_2)_2\text{OSO}_3$ and $\text{O}_3\text{S}(\text{CH}_2\text{CH}_2)_2\text{OSO}_3$, were precipitated from carbon tetrachloride and ethylene chloride solutions. C. M. Suter (Ref. 4) points out that the synthesis of the dioxanates of sulfur trioxide by direct reaction of the two components involves considerable difficulties due to the occurrence of "strong charring". In order to avoid the latter, C. M. Suter first dissolved dioxane in an inert solvent (carbon tetrachloride or ethylene chloride)

Card 1/2

ALZHENSKIY, Ya.F.

Reply to the letter of E. Ia. Larenbein "on the constant value of $(\lambda^0)/\eta$ a product of limiting equivalent conductance and viscosity of solvents. Zhur.fiz.khim. 35 no.11:2(4)~
2651 R '61. (MIRA 14:12)

1. Ukrainskaya akademiya nauk i shkoly (electrolyte solutions)

On the Dependence of λ_0 on η and D of the Medium

SOV/76-33-3-7/41

possible for the value of limit conductivity to be expressed by the equation

$$\lambda_0 = \frac{P_1 e^{-k \frac{1}{\eta}}}{\eta} \quad (8)$$

Experimental results obtained on the electric conductivity of hydrogen chloride solutions in dioxane - water (Ref 5) and substituted ammonium salts in methanol, ethanol and water (Ref 7), confirm the correctness of the equation (8). The assumption that $\lambda_0 \eta = \text{const.}$ (Ref 8) is not confirmed. There are 4 figures, 1 table, and 8 references, 6 of which are Soviet.

ASSOCIATION: Ukrainskaya akademiya sel'skokhozyaystvennykh nauk, Kiyev
(Ukrainian Academy of Agricultural Sciences, Kiyev)

SUBMITTED: February 16, 1957

Card 2/2

SOV/76-33-3-7/41

5(4)
AUTHOR:

Mezhenny, Ya. F.

TITLE:

On the Dependence of λ_0 on η and D of the Medium (O zavisimosti λ_0 ot η i D sredy)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 3, pp 550 - 553 (USSR)

ABSTRACT:

In a previous paper (Ref 1) it was found that it is possible to represent in the case of constant viscosity of the solution the equivalent conductivity of diluted hydrogen chloride solutions in dioxane - water medium by an equation (1). A clearly marked chemical affinity of the solution, may, however, lead to deviations from (1). On the basis of a figure P_r , called Pisarzhevskiy-figure (Refs 2-4) and a newly derived equation

$$P_r = P_i e^{-k \frac{1}{\epsilon}} \quad (2) \text{ theories are put forward}$$

which lead to the finding that the logarithms of P_r must be a linear function of the reciprocal value of the dielectric constant of the medium. According to this it ought to be

Card 1/2

MEZHENNYI, Yakov Filippovich; OZEROV, V.N., red.; PEVZNER, V.I.,
tekh.red.; PROKOF'YEVA, L.N., tekhn.red.

[Laboratory manual in physical and colloidal chemistry]
Laboratornyi praktikum po fizicheskoi i kolloidnoi khimii.
Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 326 p.

(MIRA 12:11)

(Chemistry, Physical and theoretical--Laboratory manuals)
(Colloids)

MEZHENNY, Ya.F.

Connection between χ and η . Ukr.khim.zhur. 24 no.6:703-705 '58.
(MIRA 12:3)

1. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk, kafedra
fizicheskoy i kolloidnoy khimii.
(Hydrochloric acid) (Electric conductivity)

MEZHENNYI, Ya. F.

USSR/ Physical Chemistry - Solutions. Theory of acids and bases

B-11

Ats Jour : Referat Zhur _ Khimiya, No 4, 1957, 11324

Author : Mezhenyy Ya. F.

Title : Physicochemical Investigation of Aqueous Dioxane Solutions.
IX. Aqueous Dioxane Solutions of Sulfuric Acid

Orig Pub : Zh. obshch. khimii, 1956, 26, No 8, 2149-2150

Abstract : Measured were specific electric conductivity κ and equivalent electric conductivity Λ of 0.1 and 0.01 N solution of H_2SO_4 in water-dioxane mixtures having a dielectric constant (DC) of 12 and 37, in the interval 15-45°. Conductance of solutions is higher with greater amount of water in the solvent. At 25° and DC = 12 Λ of 0.1 and 0.01 N solutions is 6.328 and 9.156; with increase of DC to 37 increases, respectively, to 51.84 and 48.75. With rise in temperature, and DC = 12, κ increases linearly, while with DC = 37 the increase in κ is more intensive but not as regular. Communication VIII see RzhKhim, 1957, 383.

MEZHENYI, Ya. F.

3

✓ The physicochemical investigation of systems containing
dioxane. I. Some physicochemical properties of dioxane
solutions of pyromellitic acid. J. Ya. F. Mezhenyi, J. Gen.
Chem., U.S.S.R., 26, 1645-8 (1950) (English translation).
B. M. R.
See C.A. 44, 3240.

R/M
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W. E. Z. ENDSY, Y. A. F.

The physicochemical investigation of systems containing
 dioxane. I. Some physicochemical properties of dioxane
 solutions of pyrosulfuric acid. Y. A. F. Meshegin. *Zhur.*
Obshch. Khim. 15, 1871-8 (1950) cf. C.A. 51, 9371.
 Pyrosulfuric acid reacts with dioxane to form $H_2SO_4 \cdot 2C_6H_{10}O$.
 The heat of reaction is 45,317 cal/mole. The spe-
 cific cond. of the system increases with increase in temp.
 The decompos. potential of the system is 1.72 v. The spe-
 cific cond. of $K_2S_2O_8$ -dioxane system at 50° is max. at 96
 mole % $K_2S_2O_8$. Ariadna S. Ocone

MEZHENYY, Y. F.

✓ Physicochemical study of systems with dioxane. VIII.
 The system sulfuric acid-dioxane. Ya. F. Mezhenyy.
 Zhur. Obshchei Khim. 26, 375-7(1958); cf. C.A. 49, 7330h.
 —The m.p. curve of the system H_2SO_4 -dioxane (detd. up to
 69 mol. % H_2SO_4) indicates the formation of one compd.
 point at 14 mol. % H_2SO_4 . The curve has one eutectic
 of solns. of H_2SO_4 in dioxane have max. at about 95%
 H_2SO_4 ($\kappa = 0.025$ at 25°) and fall off rapidly to small values
 at 50% H_2SO_4 ($\kappa = 0.002$ at 25°). H_2SO_4 in dioxane is a
 weaker electrolyte than is AcOH in water. Cryoscopic-
 measurements do not point to the existence of simple ions of
 H_2SO_4 in this system. A. Occone.

MEZHENYI, Y. F.

3800

Physicochemical investigation of dioxane-water solutions.
 1. Electrical conductivity of dioxane-water solution of
 hydrogen chloride. Ya. F. Mezheniy, Zaur. Obratki
 Khim. 24, 2187-221 (1974); cf. C.A.B. 40, 7366. The specific
 cond. (κ) and the equiv. elec. cond. (Λ) of HCl in dioxane-
 H₂O solns. were measured at dielec. const. varying from 80 to
 1. The value of κ of HCl solns. decreased regularly with
 the decrease in the dielec. const. of the medium. The ex-
 planation was that as the dielec. const. approaches 1, both κ
 and Λ approach 0. The calcd. values of κ showed satis-
 factory agreement with the exptl. data (see Table).

E. M. Elkin

Handwritten initials and signature.

USSR.

Physicochemical investigation of dioxane-water solutions.
 VI. Dioxane solutions of hydrogen chloride. Ya. P. Mezhennik. Zhur. Obshch. Khim. 24, 1946-9 (1964); cf. G. A. 44, 6239c. HCl (I) dissolves in dioxane (II) to the extent of 48 mol. % at 20° and 48 mol. % at 12°. The process is exothermic with considerable evolution of heat. Equiv. const. of dil. solns. of I is 10^{-3} ohm⁻¹, but at about 75 equiv./l. it is of the order of 10^{-1} . Cryoscopic study shows a higher mol. wt. than theoretical; this indicates amount of I mole. M.p. curve from pure II to approx. 12 mol. % I shows an almost linear character. V. N. B.

into Agric. Acad.

MEZHEVYI, Ye. F.

Dissertation: "Physicochemical Investigation of Dioxane and Dioxane-Aqueous Solutions."
Dr Chem Sci, Inst of General and Inorganic Chemistry, Acad Sci, Ukr SSR, 3 Jun 54.
Pravda Ukrainy, Kiev, 16 May 54.

SG: BOM 284, 26 Nov 1954

CA

2

Thermal analysis of the system dioxane-phosphorous acid. Ya. P. Meshennil (Kiev Agr. Inst., Ukraine). *Zhur. Obshch. Khim.* 19, 404-6(1949); *J. Gen. Chem. U.S.S.R.* 19, 359-61(1949)(Engl. translation); cf. *C.A.* 43, 69401c. The exptl. results and diagram show no chem. interaction of the components. Addn. of acid up to 30 mol. % has little effect on the f.p. of dioxane; the acid is considered polymerized to 3 or 4 mol. per particle. Above 35%, the f.p. falls rapidly to the single eutectic at about -12° , 62 mol. % acid, and then rises steeply to the f.p. of the acid. Worden Waring

MEZHENYI, Ia. F.

Ia. F. Mezhenyi and E. A. M. Lyanko, Osmotic investigation of solutions of sulfuric anhydride in dioxane. p. 2042.

The experimentally found molecular weight, depending on the concentration, is approximately 160; while the molecular weight of SO_2 is 64. On the basis of this, **the** conclusion is drawn that the SO_2 molecules dissolved in dioxane are polymerized to S_2O_6 .

Chair of Chemistry of the
Kiev Agricultural Institute
March 23, 1947

SO: Journal of General Chemistry (USSR) 28, (80) No. 12, (1948)

MEZHENTSI, Ia. F.

The dioxanate of pyro-sulfuric acid. Thermal analysis of the system dioxane-pyrosulfuric acid. p. 1037.

The interaction of dioxane with pyrosulfuric acid has been studied by thermal analysis. A diagram is shown: composition versus melting temperatures of this system. Since on this diagram are two eutectics and one dystectic, the conclusion is made concerning the chemical affinity between dioxane and pyrosulfuric acid.

Chair of Chemistry of the
Kiev Agricultural Institute
January 20, 1947

SO: Journal of General Chemistry (USSR) 23, (80) No. 12, (1948)

MEZHENNY, YA. F.

PA 67/49T42

USSR/Chemistry - Dioxane
Sulfur Trioxide

Dec 48

"Cryoscopic Study of Solutions of Sulfuric Anhydride in Dioxane," Ya. F. Mezhenyy, Ye. A. Martynenko, Chair of Chem, Kiev Agr Inst, 24 pp

"Zhur Obshch Khim" Vol XVIII, No 12

Investigated solutions of SO_3 in dioxane by the cryoscopic method, and found the molecular weight of the solution to be about 160, depending on the concentration of the solution. The dissolved SO_3 is polymerized into S_2O_6 .

67/49T42

PA 67/49T43

MEZHENNY, YA. F.

USSR/Chemistry - Dioxane Systems
Thermal Analysis

Dec 48

"Dioxanate of Pyrosulfuric Acid: Thermal Analysis
of Dioxane Systems -- Pyrosulfuric Acid," Ya. F.
Mezhenny, Chair of Chem, Kiev Agr Inst, 4½ pp

"Zhur Obshch Khim" Vol XVIII, No 12

Makes a thermal analysis of the system, dioxane-
pyrosulfuric acid, stating the formula $H_2S_2O_7$.
 $2C_4H_8O_2$ for the compound which has a melting point
of 79.1.

67/49T43

17. AND THE OTHER		THE AGG. THE OTHER	
PROCESSES AND PROPERTIES INDEX			
2			
Swelling of agar in mixtures of dioxane, water, and ethyl alcohol. A. V. Durnanskii, Ya. P. Mezhenin, and B. F. Nekryach. <i>Kolloid. Zhur.</i> 10, 193-8(1948); cf. <i>ibid.</i> 9, 199(1947).—Agar swells more than gelatin in mixts. contg. much dioxane or much alc., but the swelling of gelatin is greater in H₂O-rich mixts. and also in some alc.-rich mixts. In H₂O 0.8-cm. thick agar and gelatin plates took up 5.5 g. and 7.8 g. H₂O per g., resp. The amt. of solvent taken up increases with time according to $i = Bt^{\gamma}$, B and γ being const. J. I. Bikerman			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION			
FROM LITERATURE		FROM BOMBING	
SECOND HALF ONLY ONE		THIRD ONE	
FROM LITERATURE		FROM BOMBING	

PROCESS AND PROPERTIES INDEX									
The lyophilism of disperse systems. II. Heat of wetting of starch, gelatin, agar, and silica with water and alcohol. A. V. Dumanskii, Ya. P. Mezhepnii, and E. F. Nekryach. <i>Kolloid. Zhur.</i> 10, 103-11(1948); cf. C.A. 43, 6042b. — Q of sol. starch (I) in H_2O and in EtOH was 24.6 and 1.3 cal./g. and of silica gel (II) 22.7 and 23.2 cal./g. Agar and gelatin gave $Q = 0.62$ and 0.08 in EtOH. Potato starch had 1.68 in EtOH and 27.8 in M aq. sucrose soln. By extrapolating the Q data for moist adsorbents, the percentage A of H_2O that lowers Q to zero is calculated to be 37 and 30% for I and II, resp. The ratio of Q for dry powder to A is almost const. (0.67-0.81); this shows that the heat of adsorption of 1 g. of water is const. (approx. 75 cal.) This value is compared with the total surface energy of H_2O. Q of moist gelatin and agar with aq. EtOH is neg. Increases of the concn. of sucrose on mixing its solns. with starch yields for "bound" H_2O 31-34% in agreement with the A calcd. from Q. The real heat of wetting is greater than Q, because Q includes the neg. heat of swelling and soln. L. I. Likierman									
ASAC-11A METALLURGICAL LITERATURE CLASSIFICATION									
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4

Electrode potentials in nonaqueous solutions. II.
 The potentials of sodium and potassium in ethyl bromide.
 Ya. P. Merzhennil (Agr. Inst., Kiev). *J. Phys. Chem.*
 (U.S.S.R.) 21, 839-41 (1947) (in Russian); cf. *C.A.* 41,
 372. The e.m.f. of the cell $\text{Hg}|\text{Hg}_2\text{Cl}_2$ in satd. KCl solid
 AgBr 0.8 mole NaCl + 1 mole AlBr_3 in 55.5% moles EtBr
 Na was 2.70 and 2.77 for two Na electrodes. Hence, the
 normal potential of Na is -2.46 v., i.e., less neg. than in
 H_2O . The e.m.f. of the cell $\text{Hg}|\text{Hg}_2\text{Cl}_2$ in satd. KCl
 solid AgBr 0.0403 g. KCl + 0.188 g. AlBr_3 in 1 l.
 of EtBr at 25° was 2.835 and 2.848 for two K electrodes.
 Hence, the normal potential of K is -2.516, again less
 neg. than in other solvents.
 J. J. Bikerman

ASB 314 METALLURGICAL LITERATURE CLASSIFICATION

FROM: STIRLING

DATE: 1960-04

CHIEF: W. P. DUNN

WILLIAM

FROM: BIRMINGHAM

WILLIAM CHURCH

Equilibrium of disperse systems. I. Heat of wetting. Dumaevskii, Ya. P., Meshchenniy, and N. P. Nekryashin. *Zhur.* 9, 355 (1947) *cf. C.A.* 43, 455d.

Heats of wetting Q with H_2O were found calorimetrically for potato starch of different moisture contents m . At 20°, $m = 0.00, 0.55, 5.13, 10.20, 16.03, 18.59, 22.03, 24.24, Q = 28.00$ cal./g. sample (28.00 cal./g. dry starch), 20.24 (20.24), 16.29 (17.16), 10.36 (11.42), 4.21 (5.01), 2.10 (2.88), 1.09 (1.305), 0.48 (0.87). $\log Q$ is very nearly a linear function of m ; its extrapolation gives $Q = 0$ at $m = 25.7\%$, somewhat different from the less accurate expl. figures at high m . On the assumption that the total surface energy is independent of the temp., and Q is independent of the temp. on complete wetting, and since, after wetting, the total surface energy of the solid is decreased by the amt. of the surface energy q of the liquid, division of $Q = 28.00 \times 4.18 \times 10^7$ ergo (for dry starch) by $q = 118$ ergs/sq. cm., gives for the sp. surface area of starch $S_s = 1.01 \times 10^7$ sq. cm./g., and for the thickness of the H_2O layer, $\delta = 3.5 \times 10^{-8}$ cm. A monomol. layer of (close-packed) H_2O of d. 1.84 would have a thickness of 2.8×10^{-8} , one of H_2O of normal d., 3.44×10^{-8} ; consequently, if a somewhat higher than normal d. is assumed for the adsorbed H_2O film, a significant Q is limited to a layer only slightly thicker than monomol. The sp. surface area per cc. is $S'_s = 0.7 \times 10^{-7}$ sq. cm./cc. If the starch cells are assumed to be cubic, with a cell vol. 178×10^{-11} cc. (from x-ray data), the side of the cube is $l = 8.6 \times 10^{-7}$ cm.; hence the vol. of a cell outwardly wetted by H_2O , $V = 64 \times 10^{-18}$ cc., the no. of $C_6H_{10}O_5$ cells $= 3.6 \times 10^4$, and the micellar wt. of cell $M = 5.83 \times 10^6$, consistent with $M = 5.8 \times 10^6$ obtained by multiplying V by the d. of starch and Avogadro's no., and at least of the same order as the figures obtained by other methods. For powdered gelatin, at 20°, $m = 0.00, 4.73, 9.47, 12.40, 20.16, Q = 32.80, 23.68, 15.45, 8.20, 1.13$ cal./g. dry gelatin, and for

powd. agar, $m = 0.00, 7.50, 10.40, 14.73, 20.02, 20.18, Q = 44.25, 28.10, 23.45, 11.25, 6.90, 3.24$ cal./g. dry agar; the linearity between $\log Q$ and m holds in both cases. By the same cal'n. as above, one finds, for gelatin, $S_s = 1.2 \times 10^7$ sq. cm., $S'_s = 0.80 \times 10^7$ sq. cm., $\delta \leq 2 \times 10^{-8}$ cm., $l = 6.8 \times 10^{-7}$ cm., $V = 31.4 \times 10^{-18}$ cc., $M = 25 \times 10^6$, and for agar, $S_s = 1.0 \times 10^7$, $S'_s = 1.1 \times 10^7$, $\delta \leq 8.5 \times 10^{-8}$, $l = 16.6 \times 10^{-7}$ cm., $M = 1.4 \times 10^6$. With regard to S_s , the order is starch > gelatin > agar. With respect to M , starch > gelatin > agar. The curve of the heat of wetting Q' of starch of different m , with EtOH, is entirely different from the curve of wetting with H_2O . With $m = 0.00, 3.528, 7.037, 12.75, 14.21, 21.03, Q' = 1.682$ cal./g. sample (1.628 cal./g. dry starch), 1.004 (1.04), -0.913 (-0.874), -4.37 (-5.00), -2.74 (-3.19), -1.043 (-1.319), i.e. Q' passes through a min. at a certain m , and takes neg. values over a certain range of m . This behavior is the result of a superposition of the heat of wetting by EtOH, predominant at low m up to about 6%, of the (neg.) heat of desorption of H_2O in the m range 6-28%, and of the (pos.) heat of soln. of H_2O in EtOH, prevailing at $m < 28\%$. A curve constructed by superposition of these effects has the same shape as the expl. Q' curve. Desorption of H_2O as a result of wetting with EtOH was demonstrated directly by detns. of the loss of H_2O , and the presence of desorbed H_2O in the EtOH

was demonstrated by refractometry. The curve of the heat of wetting of dry starch in $H_2O + EtOH$ mixts., in terms of the compn. of the wetting liquid, is S-shaped, Q falling with increasing EtOH content, first fairly rapidly (from 28 cal./g. for pure H_2O to 19 for 40% EtOH), then very slowly (from 19 to 17.5 cal./g.) between 40 and 80% EtOH, finally increasing abruptly, from 15 to 1.68 cal./g. between 90% and 100% EtOH. The arrest in the 40-80% range corresponds to the existence of hydrates of the type $EtOH.2H_2O$. N. Thon

MEZHENNY, Ya. F.

PA 18T82

USSR/Chemistry - Electrochemistry
Chemistry - Electrodes

Jun 1946

"The Electrode Potentials of Sodium and Potassium in Nitrobenzene," Ya. F. Mezhenyy, 10 pp

"Zhur Fiz Khim" Vol XX, No 6

Article accompanied by diagrams of apparatus, chemical formulae used, and tables of results. Draws the following conclusions: (1) The electrode potentials of sodium and potassium in nitrobenzene solutions with aluminum bromide, potassium chloride and sodium, as well as sodium compounded with menstruums of nitrobenzene - benzene, were investigated; (2) Sodium and potassium similarly had regular electrode potentials in nitrobenzene solutions.

18T82

Kiev Agric. Inst., Lab. Phys. + Colloid. Chem.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001033800041-6

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z																										A B C D E F G H I J K L M N O P Q R S T U V W X Y Z																																																																																																									
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<i>ca</i> Compound of aluminum bromide with dioxane. Ya. F. Mezhenynyl (Kiev Agr. Inst.). <i>J. Gen. Chem.</i> (U.S.S.R.) 16, 447-50(1946).—In a study of the interaction of AlBr₃ with dioxane it was shown that it is possible to isolate from satd. solus. of AlBr₃ in dioxane, or by addn. of AlBr₃ in benzene to dioxane, a cryst. adduct, AlBr₃·2C₄H₁₀O₂, which is very hygroscopic and unstable in air, and decomp. in water. It m. somewhere between 70° and 80°. G. M. Koslanoff																																																																																																																																			
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Does tribromophenol in benzene solution give anomalous deviations from the van't Hoff and Raoult laws, analogously to strong electrolytes. V. A. Kozlov, <i>J. Gen. Chem. (U.S.S.R.)</i> 15, 1187-8 (1941), <i>ibid.</i> cond. and experimental methods the system tribromophenol-dioxane was studied between 0 and 6.55 g. mol./1000 g. concn. In this system electrolytic process does not take place; the van't Hoff and Raoult laws are obeyed exactly. U.S.S.R. Academy of Sciences (D. M. Kozlov)																			
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<i>ca</i> <i>2</i> Cryoscopic investigation of some halides of lithium, rubidium and cesium in nitrobenzene solution of aluminum bromide. Ya. P. Mechenin, <i>Zapiski Inst. Khim. Akad. Nauk U. R. S. S. R.</i> 7, 303-71 (in Russian, 371-9; in German, 373-8) (1940).—Cryoscopic study was made of the systems $\text{PhNO}_2\text{-AlBr}_3$ and LiCl, RbCl, RbI or CsCl. The addn. of the halide lowers the f. p. of the soln. By increasing the addn. of the halide in relation to the AlBr_3 for a const. ratio of $\text{AlBr}_3/\text{PhNO}_2$ the partial depression of the f. p. increases linearly. The calcs. of the apparent mol. wt. for RbCl, CsCl and RbI correspond to the theoretical wt. within the exptl. errors. All these regularities are due to the formation of mol. complexes that disoc. electrolytically like the binary electrolytes: $(\text{AlBr}_3\text{Cl})\text{M} \rightleftharpoons \text{M}^+ + (\text{AlBr}_3\text{Cl})^-$. B. Z. Kamich			
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CP Crystallinity of the systems $\text{AlBr}_3\text{-C}_6\text{H}_5\text{NO}_2$, $\text{NaCl-AlBr}_3\text{-C}_6\text{H}_5\text{NO}_2$, and $\text{KCl-AlBr}_3\text{-C}_6\text{H}_5\text{NO}_2$. Ya. P. Mezhenin and P. P. Tarov. <i>Mém. Inst. Chim., Acad. Sci. Union. S. S. R.</i> 8, 85-87 (in Russian 88, in English 98-9) (1938).-- The mol. wt. of AlBr_3 dissolved in nitrobenzene was very close to the theoretical one for AlBr_3. Av. deviation was +0.03%. By dissolving NaCl and KCl in nitrobenzene solns. of AlBr_3 the f. p. is lowered in proportion to the chloride added. The theoretical mol. wts. of NaCl and KCl show close agreement with mol. wts. as calcd. by the partial depression of the f. p. R. Z. Kamich																			
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The electrochemical properties of the melts $\text{LiCl}-\text{AlBr}_3$, $\text{NaCl}-\text{AlBr}_3$, $\text{KCl}-\text{AlBr}_3$, and $\text{AgCl}-\text{AlBr}_3$. V. A. P. Mironov. *Mem. Inst. Chem., Acad. Sci. USSR*, 1959, 10, 4, 413-24 (in Russian 425, in German 426) (1938). Cf. C. A. 31, 6115d. — By dissolving any one of the chlorides in AlBr_3 the cond. rises sharply. For the systems $\text{LiCl}-\text{NaCl}$ and KCl the cond. is the greater the greater the mobility of the alkali metal ion. An increase in temp. had a pos. effect upon cond. Decompn. potentials were 1.6 v. for LiCl , NaCl and KCl and 1.05 v. for AgCl . Systems having Li , Na and K chlorides in AlBr_3 , sep. Al on a Pt cathode and Br on the anode. With AgCl in AlBr_3 , Ag sep. out on the cathode. B. Z. Kammish.

cp

Electrochemical investigation of the systems AlBr_3 , CH_3NO_2 , LiCl , AlBr_3 , CH_3NO_2 . Ya. P. Mezhenin. *Mem. Inst. Chem. Acad. Sci. USSR*, S. S. R. 3, 361-72 in Russian, 362-47 in German, 1961-62. AlBr_3 dissolves easily in CH_3NO_2 giving colorless solns. in which LiCl and KCl dissolve readily. The solns. are clear, but upon standing they change to a white gelatinous mass. The addn. of KCl or LiCl raises the sp. cond. considerably. During electrolysis, the alkali metal sepd. on the cathode. R. Z. Kamich.

ASAC 55-6 METALLURGICAL LITERATURE CLASSIFICATION

RESEARCH

RESEARCH

KRASIL'NIKOV, Boris Konstantinovich; KESSELENNY, Vladimir
Ivanovich; SUDOROV, Vasilii Fedorovich; TOBKIN, A.I.,
retsenzent; PETROV, Yul', retsenzent; VENTIL'NII, A.I.,
nauchn. red.; NIKHINA, A.B., red.

[Experience in the automation of the control of marine
diesel engines] Opyt avtomatizatsii upravleniya surovymi
dizel'nyimi. Leningrad, Elektromash, 1965. 177 p.
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a diesel electric power plant. Sudostroenie 39 no.9:52-54 8'64.
(MIRA 17:11)

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Results of examining animals for leptospirosis. Veterinariia
42 no.11:39-40 N '65. (MIRA 19:1)

1. Tsentral'nyy in. titut usovershenstvovaniya vrachev.

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Province for leptospirosis. Trudy TSIU 80:36-40 '65.
(MIRA 18:11)

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MEZHENNYI, A.A.

Biology of the nutcracker (*Nucifraga caryocatactes macro-*
rhynchus) in southern Yakutia. Zool. zhur. 43 no.11:1679-
1697 '64. (MIRA 18:11)

1. Zoologicheskiy institut AN SSSR, Leningrad.

YEGOROV, O.V.; LABUTIN, Yu.V.; MEZHENNYI, A.A.

Material on the biology of the Siberian capercaillie. Trudy Inst.
biol.IAFAN SSSR no.6:97-105 '59. (MIRA 13:6)
(GROUSE)

MEZHENNY, A.A.

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and shrubs in Southern Yakutia. Nauch. soob. IAFAN SSSR no.1:96-103
'58. (MIRA 17:1)

MEZHENYY, A.A.

Changes in the crown structures of larches (*Larix*) induced by *Tetrao parvinostri* Bp. Bot.zhur.42 no.1:84 Ja '57. (MLRA 10:2)

1. Yakutskiy filial Akademii nauk SSSR, Yakutsk.
(Larch) (Grouse)

MEZHENNY, A.A.

Outbreak of *Aporia crataegi* L. (Lepidoptera, Pieridae) in Yakutia.
Ent.oboz.35 no.4:803-804 '56. (MLRA 10:2)

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(Lena Valley--Butterflies)

MEZHENNY, A. A.

USSR/ Biology - Ornithology

Card 1/1 Pub. 86 - 21/39

Authors : Lukina, E. V., and Mezhenyy, A. A.

Title : About some peculiarities of the biology of the cuckoo

Periodical : Priroda 44/3. 108 - 112, Mar 1955

Abstract : The author presents the results of observations of the habits
and characteristics of the cuckoo. Illustrations.

Institution : Academy of Sciences of the USSR, I. P. Pavlov^y Institute of
Physiology

Submitted :

MEZHENNY A.A.
VLADIMIRSKAYA, M.I.; MEZHENNY, A.A.

Birds of Lake Kurgal'dzhin (northern Kazakhstan). Trudy Zool.
inst. 9 no.4:1199-1225. '52. (MLRA 7:11)
(Kurgal'dzhin, Lake--Birds) (Birds--Kurgal'dzhin, Lake)

Inst. Zoology. AS USSR

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Nitrogen-phosphorus-potassium fertilizer and chlorine-free
nitrogen-phosphorus-potassium fertilizer based on Kalush
potassium sulfate. Khim. prom. [Ukr.] no.2:44-45 Ap-Je '63.
(MIRA 16:8)

1. Ukrainskaya sel'skokhozyaystvennaya akademiya.

MEZHENNIIKOV, A., inzh.; KIZATOV, P., starshiy inzh. po tekhnicheskoy informatsii; GERASIMOV, Ye.; GORBANEV, V.; KOSTENKO, P.

Exchange of experience. Izobr.i rats. no.5:22 My '62.
(MIRA 15:5)

1. Byuro tekhnicheskoy informatsii Karbyuratornogo zavoda, Leningrad (for Mezhenikov). 2. Kombinat "Sikhali", pos. Tetyukhe, Primorskiy kray (for Kizatov). 3. Chlen prezidiuma oblastnogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov, g. Irkutsk (for Gerasimov). 4. Sekretar' oblastnogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov (for Kostenko).
(Technological innovations)

AVRAAMOV, Yu.S.; MEZHENNAYA, S.O.

Effect of addition alloying with molybdenum on internal friction during the ordering of Ni₃Mn alloys. Izv.vys.ucheb.zav.; chern.met. no.5:102-105 '60. (MIRA 13:6)

1. Moskovskiy institut stali.
(Nickel-manganese alloys--Metallography)
(Molybdenum) (Internal friction)

MEZHENNAYA S. O.

PHASE I BOOK EXPLANATION 50/595

Moscow. Institut steel

Belokostitskoye yezheniya v metallizatsii i splavakh; study Mezhuvozhogo
sveshchaniya (Belokostitskoye yezheniya in Metals and Alloys; Transactions of the
Inter-Institute Conference) Moscow, Metallurgizdat, 1950. 365 p.

Sponsoring Agency: Ministerstvo vostochno i srednego spetsial'nogo obratovaniya
ENRSH and Vostokovskiy Institut steel in metal I.V. Stalina.

Ed. (title page): N.M. Finkel'shteyn; Ed., of Publishing House: Ye.I. Levits; Tech.
Ed.: A.I. Karashev.

PURPOSE: This collection of articles is intended for personnel in scientific insti-
tutions and schools of higher education and for physical metallurgists and
physicists specializing in metals. It may also be useful to students of these
fields.

COVERAGES: The collection contains results of experimental and theoretical inves-
tigations carried out by schools of higher education and scientific research
institutions in the field of the relationship between in metals and alloys.
Several articles are devoted to the investigation-by the internal-friction
method-of the decomposition of supersaturated solid solutions. Also included
are the defects of the crystalline lattice, plastic deformations, high-temper-
ature behavior of alloys, and creep. Problems of the relation between internal
friction and temper brittleness, the use of the method of internal friction in
the investigation of post-tempering products, and the effect of internal friction
on the mechanical properties of metals are discussed. The collection contains
articles on the effect of internal friction on the dynamic behavior of
metals under cyclic stresses, and the new slow-deformation method.
References are mentioned. References follow most articles. There are 365
references: 198 Soviet and 174 non-Soviet.

Sudis, R.A. [Moscow Steel Institute]. On Dispersion Correlations in
the Theory of Elastic Relaxation 55

Staroborov, E.P., and A.A. Sazonov [Dnepropetrovsk metallurgical
Institute (Dnepropetrovsk Metallurgical Institute)]: Effect of the Tempering
Temperature After Quenching and the Temperature of Isothermal Processing on
the Vibration Damping in the Silicon Spring Steel. 58

Plavov, Yu.V., M.P. Alshovets, and L.S. Fedotkin [Moscow Steel Institute and
Moscow Institute of Steel and Alloy (All-Union Institute of Aviation
Materials)]: Effect of the Tempering Brittleness of High-Chromium Steels on the
Internal Friction 64

Chernikov, I.M. [Moscow Steel Institute]. Study of the Tempering of Carbon
Steels by the Internal-Friction Method 85

Krihval, M.A., and S.A. Golovin [Tul'skiy mekhanicheskii institut (Tula
Mechanical Institute)]: On the Problem of the Internal Friction in Hardened
and Tempered Steel 95

Krihval, M.A., and S.A. Golovin [Tula Mechanical Institute]. Relative
Damping of Torsional Vibrations in Heat-Treated U7A Steel 101

M.Kh. Kanel, and Karel Toman [Institute of Technical Physics of the
Czechoslovak Academy of Sciences]. Aging of the Aluminum-Silver Alloy 104

Maltseva, G.K., and V.S. Potinikov [Krasnoyarskiy pedagogicheskii institut
(Krasnoyarskiy Pedagogical Institute)]: Decomposition of the Supersaturated Ferrite-
Copper Solid Solution 109

Polyakov, S.K. [Institut Chernoy metallurgii AS USSR (Institute of Ferrous
Metallurgy of the Academy of Sciences USSR)]: Behavior of Carbon in
Alloyed with Manganese and Molybdenum 118

Kirshina, B.G., Ye.S. Avramov, V.B. Oshchepkin, S.O. Mikhnevich, and L.N. Belyakov
[Moscow Steel Institute]. Internal Friction of Metastable Solid Solutions 125

Novik, L.P. [Moscow Steel Institute]. Investigation of the Carbon Influence on
the Properties of Low-Carbon Steel by the Method of Measuring Internal
Friction 138

Asmarin, G.M. [Moscow Steel Institute]. The High-Temperature Internal
Friction of Iron-Vanadium Alloys 146

6623'

SOV/126-8-3-18/33

Internal Friction of Metastable Solid Solutions

(Fig 9). Thus measurement of the internal friction (metastability peaks) renders differentiation between ordering and K-state possible. There are 9 figures, 1 table and 19 references, 12 of which are Soviet and 7 Western.

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SOV/126-8-3-18/33

Internal Friction of Metastable Solid Solutions

friction of the alloy Ni_3Fe . Fig 8 shows the influence of heat treatment on the internal friction of a nimonic alloy. In Fig 9, the change in internal friction with Ti content in a nimonic alloy is shown. The authors conclude that on measuring the temperature dependence of internal friction of metastable solid solutions characteristic effects can be expected even when the structural factor is exceedingly small. The magnitude of the effects in this case must be the greater, the greater the difference in free energy between a quenched and tempered alloy. A comparison of the internal friction of ordering alloys with that of alloys forming a K-state structure at low temperatures is exceedingly interesting (see Fig 4 and 6). On adding molybdenum to ordering alloys (Ni_3Mn) the metastability peak decreases as molybdenum decreases the degree of possible order. Conversely on adding this element to K-state alloys ($\text{Ni}_3\text{Fe} + \text{Mo}$) the metastability peak increases, as the increase in molybdenum concentration appears to increase the extent of atom segregation (K-state) in the solution. The same can be said about titanium in the alloy EI437

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